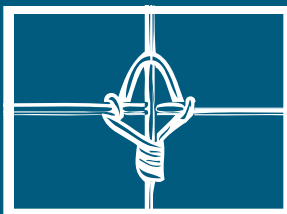


Fixed Knot Brace Specifications and Installation Guide



FIXED KNOT

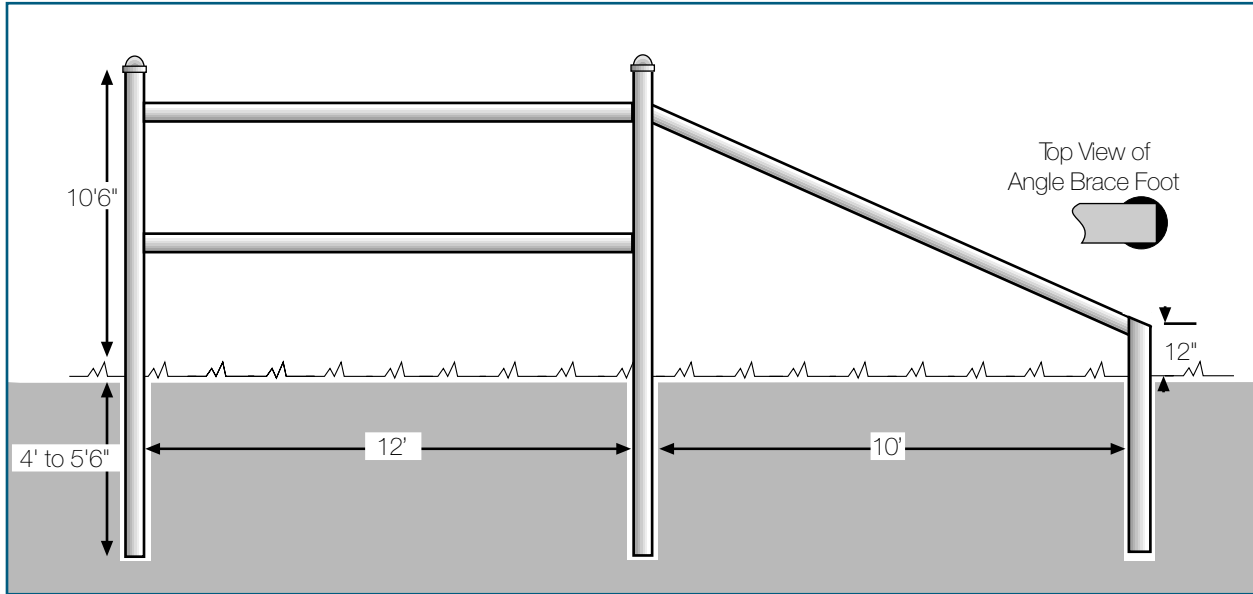


MADE IN THE USA

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Pipe Brace Assembly - 10' Fixed Knot Fence



Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (2 per Brace)	16' x 2 7/8" Piece of Structural Tubing	2 pieces of 16' x 2 7/8" Structural Tubing
Angle Brace Foot (1 per Brace)	6' x 2 7/8" Piece of Structural Tubing	1 piece of 6' x 2 7/8" Structural Tubing
Cross Member (2 per Brace)	12' x 2 3/8" Piece of Structural Tubing	2 pieces of 12' x 2 3/8" Structural Tubing
Angle Brace (1 per Brace)	14' x 2 3/8" Piece of Structural Tubing	1 piece of 14' x 2 3/8" Structural Tubing
Additional Materials Needed		
OSPHO (rust-inhibiting coating)	Oil Based Enamel Paint	Structural Tubing Random Lengths: 32' or less
Metal Primer Paint	Standard Galvanized Pipe Lengths: 21', 24'	

Note:

- (a) Galvanized Schedule 40 pipe is highly recommended instead of structural tubing
- (b) 3 1/2" Schedule 40 pipe should be used where gates are being hung.

Installation

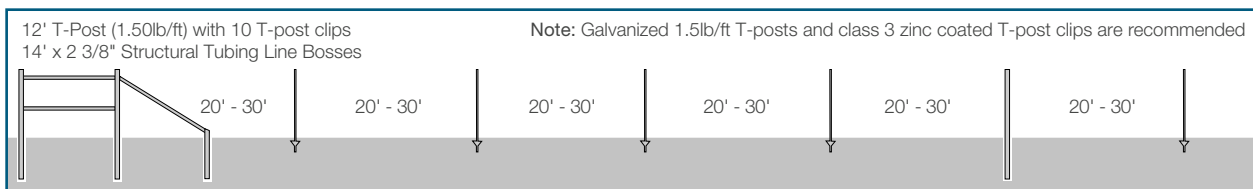
Note: Plan ahead to avoid costly waste ("drop") of pipe. Pipe Braces set in mixed soils are set 5'6" deep in concrete, with the minimum diameter of the hole being 8".

Caution: Allow 2 days for concrete to cure before pulling on brace.

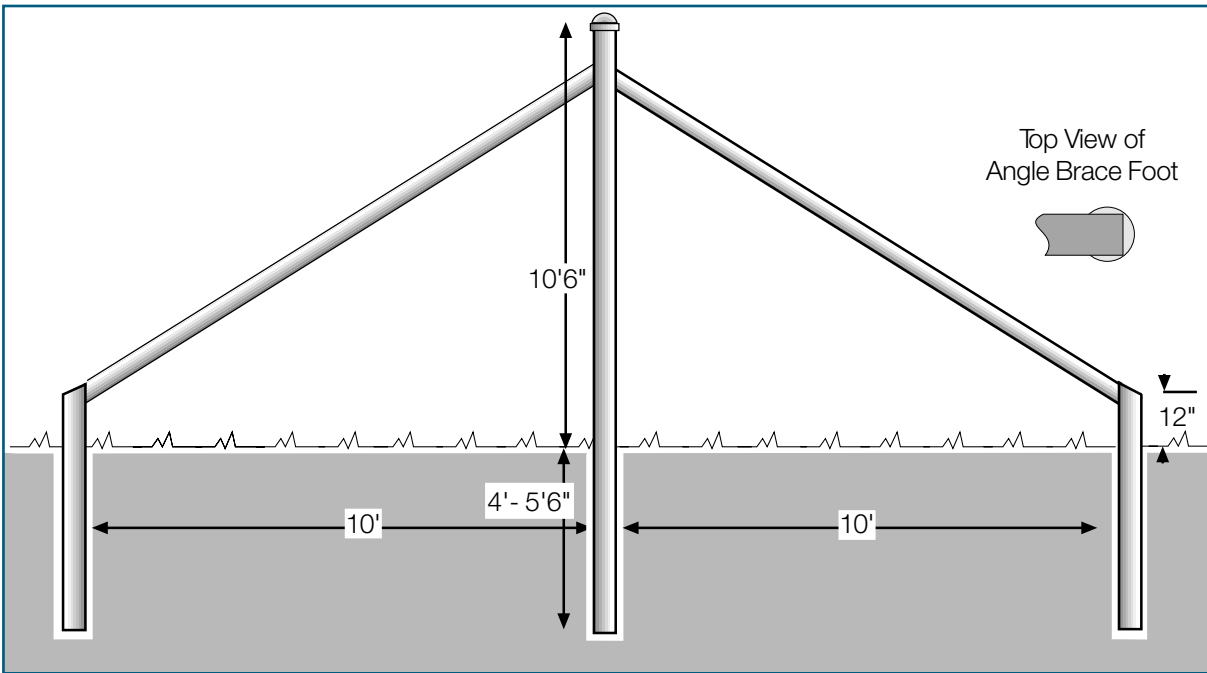
Do not cheat on the depth of your brace posts for this determines the life of your fence. Do not fill holes completely with concrete. Fill the hole at most 1/3, leaving the rest to be filled with tamped dirt or crushed stone. Also, flare the bottom of hole if possible, this will provide an anchor for the post. Pipe set in solid rock or stone are set 4' deep with a hole bored to match the diameter of the pipe. Pipe may also be driven in mixed soils to a minimum depth of 5'6".

1. Treat pipe with OSPHO before setting. This product retards rust in chemical change on drying to a surface ready for priming.
2. Set End Post and pull Guide Wire.
3. Set Brace Post at 12' and Angle Foot at 10' centers.
4. Measure inside the Brace width then cut and saddle the Cross Member. Position the top Cross Member between the 2nd and 3rd line wires of the fence fabric and the middle Cross Member half of the distance between the ground and the top Cross Member. Try to set the middle Cross Member so it will fall between 2 horizontal wires. Weld Solid.
5. Notch the Angle Brace Foot so the 2 3/8" Angle Brace can lay inside the foot. Cut and saddle the Angle Brace to meet the top Cross Member of the brace. Weld solid.
6. Cap all pipe with concrete plugs or pressed steel caps. If pipe is left open, water will rust the pipe off at ground level.
7. Brush all welds. For optimum protection, treat with OSPHO and then apply the metal primer followed by one or two coats of oil based paint.

Line Posts: Set line posts using 20' - 30' spacing. Post spacing should be determined by the terrain, turns in the fence line, changes in weather conditions and animal pressure. If a combination of T-posts and line bosses (2 3/8" structural pipe) is used, the ratio of T-posts should not exceed a 4 to 1 ratio. 2 3/8" structural tubing should be used for all line posts with post spacing greater than 20'. Use 20' post spacing with any rough terrain. On level ground, 30' spacing is acceptable with use of pipe posts only. A rigid post should be placed on top of all hips and in the bottom of all dips. Severe dips will require an inline brace assembly and fabrication of a water gap to accommodate for flood waters. T-post weight should not be less than 1.33lb/ft.



Pipe Line Brace Assembly - 10' Fixed Knot Fence



Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (1 per Brace)	16' x 2 7/8" Piece of Structural Tubing	1 piece of 16' x 2 7/8" Structural Tubing
Angle Brace Foot (2 per Brace)	6' x 2 7/8" Piece of Structural Tubing	2 pieces of 6' x 2 7/8" Structural Tubing
Angle Brace (2 per Brace)	14' x 2 3/8" Piece of Structural Tubing	2 pieces of 14' x 2 3/8" Structural Tubing
Additional Materials Needed		
OSPFO (rust-inhibiting coating)	Oil Based Enamel Paint	
Metal Primer Paint		

Note:

- (a) Galvanized Schedule 40 Pipe is highly recommended instead of structural tubing
- (b) 3 1/2" schedule 40 pipe should be used where gates are being hung.

Installation

Note: Plan ahead to avoid costly waste ("drop") of pipe. Pipe Braces set in mixed soils are set 5'6" deep in concrete, with the minimum diameter of the hole being 8".

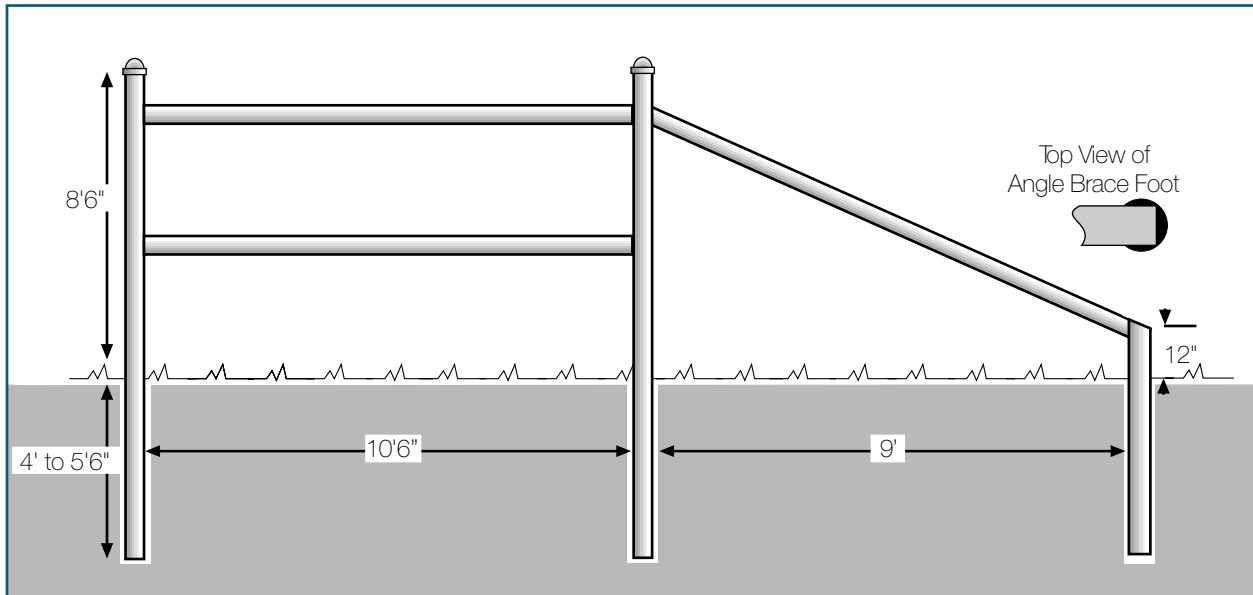
Caution: Allow 2 days for concrete to cure before pulling on brace.

Do not cheat on the depth of your brace posts for this determines the life of your fence. Do not fill holes completely with concrete. Fill the hole at most 1/3, leaving the rest to be filled with tamped dirt or crushed stone. Also, flare the bottom of hole if possible, this will provide an anchor for the post. Pipe set in solid rock or stone are set 4' deep with a hole bored to match the diameter of the pipe. Pipe may also be driven in mixed soils to a minimum depth of 5'6".

1. Treat pipe with OSPFO before setting. This product retards rust in chemical change on drying to a surface ready for priming.
2. Set End Post and pull Guide Wire.
3. Set Angle Feet 10' from Brace Post on either side and in line with fence line.
4. Measure inside the Brace width then cut and saddle the Cross Member. Position the Angle Brace between the 2nd and 3rd line wires of the fence fabric. Weld Solid.
5. Notch the Angle Brace Foot so the 2 3/8" Angle Brace can lay inside the foot. Cut and saddle the Angle Brace to meet the top Cross Member of the brace. Weld solid.
6. Cap all pipe with concrete plugs or pressed steel caps. If pipe is left open, water will rust the pipe off at ground level.
7. Brush all welds. For optimum protection, treat with OSPFO and then apply the metal primer followed by one or two coats of oil based paint.

Note: Inline Brace Assemblies should be set no more than 1,320' for 6" or 12" vertical stay wire spacing, and no more than 800' for 3" vertical stay wire spacing fixed knot fence.

Pipe Brace Assembly - 8' Fixed Knot Fence



Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (2 per Brace)	14' x 2 7/8" Piece of Structural Tubing	2 pieces of 14' x 2 7/8" Structural Tubing
Angle Brace Foot (1 per Brace)	6' x 2 7/8" Piece of Structural Tubing	1 piece of 6' x 2 7/8" Structural Tubing
Cross Member (2 per Brace)	10'6" x 2 3/8" Piece of Structural Tubing	2 pieces of 10'6" x 2 3/8" Structural Tubing
Angle Brace (1 per Brace)	12' x 2 3/8" Piece of Structural Tubing	1 piece of 12' x 2 3/8" Structural Tubing
Additional Materials Needed		
OSPHO (rust-inhibiting coating)	Oil Based Enamel Paint	Structural Tubing Random Lengths: 32' or less
Metal Primer Paint	Standard Galvanized Pipe Lengths: 21', 24'	

Note:

- (a) Galvanized Schedule 40 pipe is highly recommended instead of structural tubing
- (b) 3 1/2" Schedule 40 pipe should be used where gates are being hung.

Installation

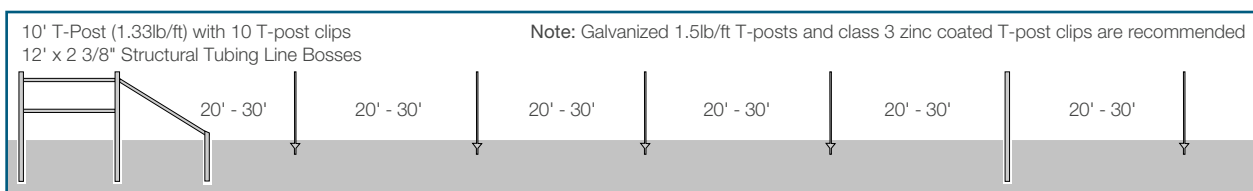
Note: Plan ahead to avoid costly waste ("drop") of pipe. Pipe Braces set in mixed soils are set 5'6" deep in concrete, with the minimum diameter of the hole being 8".

Caution: Allow 2 days for concrete to cure before pulling on brace.

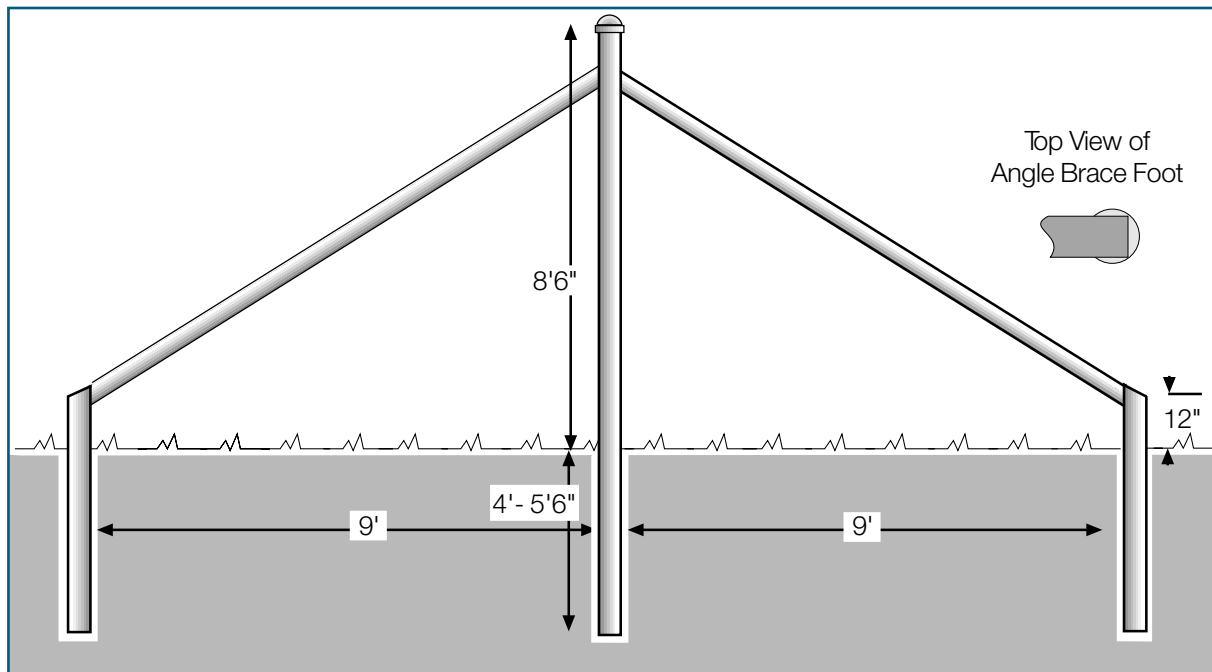
Do not cheat on the depth of your brace posts for this determines the life of your fence. Do not fill holes completely with concrete. Fill the hole at most 1/3, leaving the rest to be filled with tamped dirt or crushed stone. Also, flare the bottom of hole if possible, this will provide an anchor for the post. Pipe set in solid rock or stone are set 4' deep with a hole bored to match the diameter of the pipe. Pipe may also be driven in mixed soils to a minimum depth of 5'6".

1. Treat pipe with OSPHO before setting. This product retards rust in chemical change on drying to a surface ready for priming.
2. Set End Post and pull Guide Wire.
3. Set Brace Post at 10'6" and Angle Foot at 9' centers.
4. Measure inside the Brace width then cut and saddle the Cross Member. Position the top Cross Member between the 2nd and 3rd line wires of the fence fabric and the middle Cross Member half of the distance between the ground and the top Cross Member. Try to set the middle Cross Member so it will fall between 2 horizontal wires. Weld Solid.
5. Notch the Angle Brace Foot so the 2 3/8" Angle Brace can lay inside the foot. Cut and saddle the Angle Brace to meet the top Cross Member of the brace. Weld solid.
6. Cap all pipe with concrete plugs or pressed steel caps. If pipe is left open, water will rust the pipe off at ground level.
7. Brush all welds. For optimum protection, treat with OSPHO and then apply the metal primer followed by one or two coats of oil based paint.

Line Posts: Set line posts using 20' - 30' spacing. Post spacing should be determined by the terrain, turns in the fence line, changes in weather conditions and animal pressure. If a combination of T-posts and line bosses (2 3/8" structural pipe) is used, the ratio of T-posts should not exceed a 4 to 1 ratio. 2 3/8" structural tubing should be used for all line posts with post spacing greater than 20'. Use 20' post spacing with any rough terrain. On level ground, 30' spacing is acceptable with use of pipe posts only. A rigid post should be placed on top of all hips and in the bottom of all dips. Severe dips will require an inline brace assembly and fabrication of a water gap to accommodate for flood waters. T-post weight should not be less than 1.33lb/ft.



Pipe Line Brace Assembly - 8' Fixed Knot Fence



Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (1 per Brace)	14' x 2 7/8" Piece of Structural Tubing	1 piece of 14' x 2 7/8" Structural Tubing
Angle Brace Foot (2 per Brace)	6' x 2 7/8" Piece of Structural Tubing	2 pieces of 6' x 2 7/8" Structural Tubing
Angle Brace (2 per Brace)	12' x 2 3/8" Piece of Structural Tubing	2 pieces of 12' x 2 3/8" Structural Tubing
Additional Materials Needed		
OSPFO (rust-inhibiting coating)	Oil Based Enamel Paint	
Metal Primer Paint		

Note:

- (a) Galvanized Schedule 40 Pipe is highly recommended instead of structural tubing
- (b) 3 1/2" schedule 40 pipe should be used where gates are being hung.

Installation

Note: Plan ahead to avoid costly waste ("drop") of pipe. Pipe Braces set in mixed soils are set 5'6" deep in concrete, with the minimum diameter of the hole being 8".

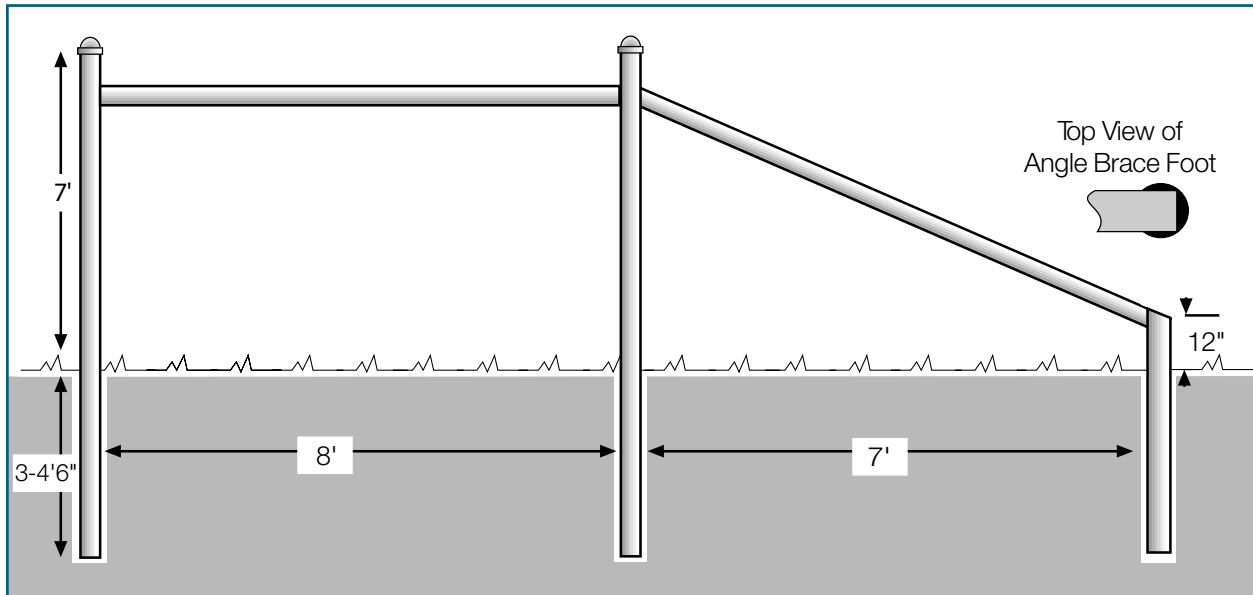
Caution: Allow 2 days for concrete to cure before pulling on brace.

Do not cheat on the depth of your brace posts for this determines the life of your fence. Do not fill holes completely with concrete. Fill the hole at most 1/3, leaving the rest to be filled with tamped dirt or crushed stone. Also, flare the bottom of hole if possible, this will provide an anchor for the post. Pipe set in solid rock or stone are set 4' deep with a hole bored to match the diameter of the pipe. Pipe may also be driven in mixed soils to a minimum depth of 5'6".

1. Treat pipe with OSPFO before setting. This product retards rust in chemical change on drying to a surface ready for priming.
2. Set End Post and pull Guide Wire.
3. Set Angle Feet 9' from Brace Post on either side and in line with fence line.
4. Measure inside the Brace width then cut and saddle the Cross Member. Position the Angle Brace between the 2nd and 3rd line wires of the fence fabric. Weld Solid.
5. Notch the Angle Brace Foot so the 2 3/8" Angle Brace can lay inside the foot. Cut and saddle the Angle Brace to meet the top Cross Member of the brace. Weld solid.
6. Cap all pipe with concrete plugs or pressed steel caps. If pipe is left open, water will rust the pipe off at ground level.
7. Brush all welds. For optimum protection, treat with OSPFO and then apply the metal primer followed by one or two coats of oil based paint.

Note: Inline Brace Assemblies should be set no more than 1,320' for 6" or 12" vertical stay wire spacing, and no more than 800' for 3" vertical stay wire spacing fixed knot fence.

Pipe Brace Assembly - 6' Fixed Knot Fence



Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (2 per Brace)	11'6" x 2 7/8" Piece of Structural Tubing	2 pieces of 11'6" x 2 7/8" Structural Tubing
Angle Brace Foot (1 per Brace)	5' x 2 7/8" Piece of Structural Tubing	1 piece of 5' x 2 7/8" Structural Tubing
Cross Member (1 per Brace)	8' x 2 3/8" Piece of Structural Tubing	1 piece of 8' x 2 3/8" Structural Tubing
Angle Brace (1 per Brace)	10' x 2 3/8" Piece of Structural Tubing	1 piece of 10' x 2 3/8" Structural Tubing
Additional Materials Needed		
OSPHO (rust-inhibiting coating)	Oil Based Enamel Paint	Structural Tubing Random Lengths: 32' or less
Metal Primer Paint	Standard Galvanized Pipe Lengths: 21', 24'	

Note:

- (a) Galvanized Schedule 40 pipe is highly recommended instead of structural tubing
- (b) 3 1/2" Schedule 40 pipe should be used where gates are being hung.

Installation

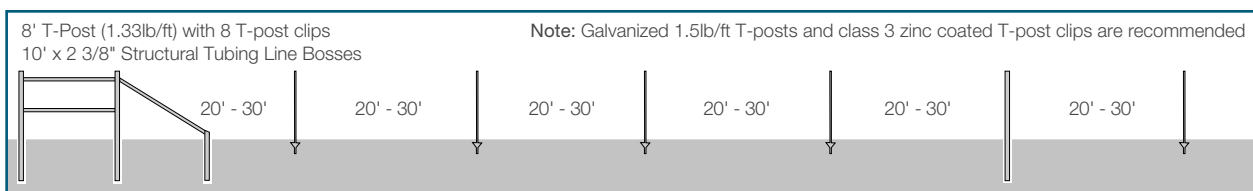
Note: Plan ahead to avoid costly waste ("drop") of pipe. Pipe Braces set in mixed soils are set 4' deep in concrete, with the minimum diameter of the hole being 8".

Caution: Allow 2 days for concrete to cure before pulling on brace.

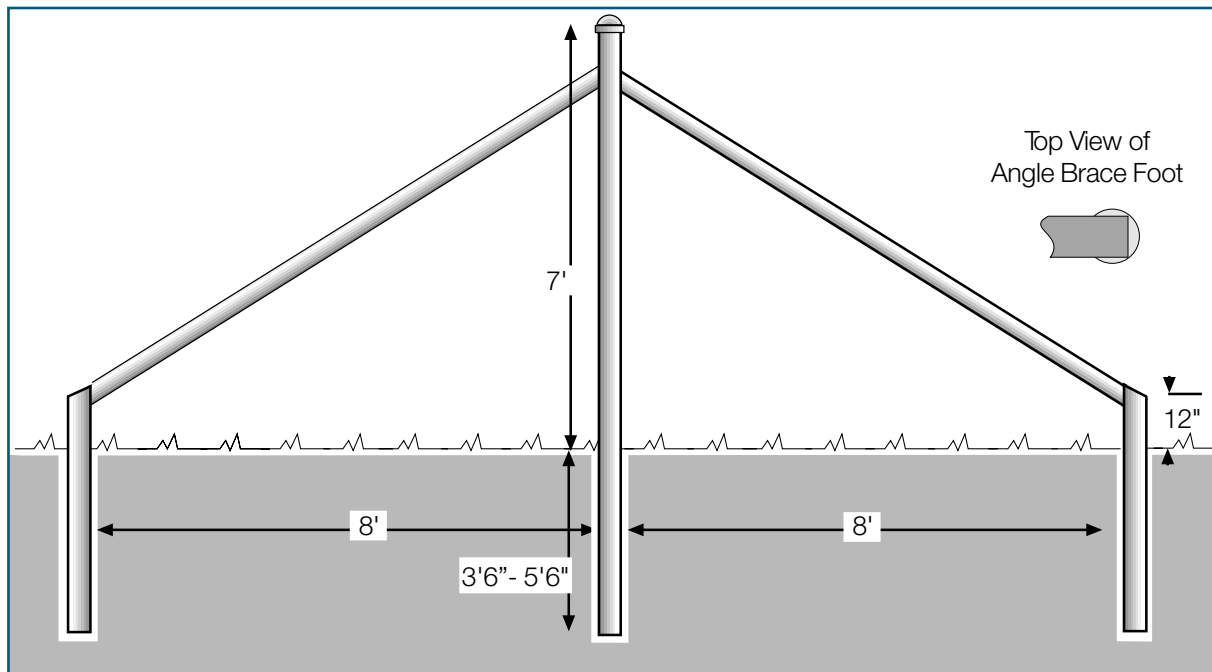
Do not cheat on the depth of your brace posts for this determines the life of your fence. Do not fill holes completely with concrete. Fill the hole at most 1/3, leaving the rest to be filled with tamped dirt or crushed stone. Also, flare the bottom of hole if possible, this will provide an anchor for the post. Pipe set in solid rock or stone are set a minimum of 3' deep with a hole bored to match the diameter of the pipe. Pipe may also be driven in mixed soils to a minimum depth of 4'.

1. Treat pipe with OSPHO before setting. This product retards rust in chemical change on drying to a surface ready for priming.
2. Set End Post and pull Guide Wire.
3. Set Brace Post at 8' and Angle Foot at 7' centers.
4. Measure inside the Brace width then cut and saddle the Cross Member. Position the Cross Member between the 2nd and 3rd line wires of the fence fabric. Weld Solid.
5. Notch the Angle Brace Foot so the 2 3/8" Angle Brace can lay inside the foot. Cut and saddle the Angle Brace to meet the Cross Member of the brace. Weld solid.
6. Cap all pipe with concrete plugs or pressed steel caps. If pipe is left open, water will rust the pipe off at ground level.
7. Brush all welds. For optimum protection, treat with OSPHO and then apply the metal primer followed by one or two coats of oil based paint.

Line Posts: Set line posts using 20' - 30' spacing. Post spacing should be determined by the terrain, turns in the fence line, changes in weather conditions and animal pressure. If a combination of T-posts and line bosses (2 3/8" structural pipe) is used, the ratio of T-posts should not exceed a 4 to 1 ratio. 1 7/8" to 2 3/8" structural tubing should be used for all line posts. Use 20' post spacing with any rough terrain. On level ground, 30' spacing is acceptable with use of pipe posts only. A rigid post should be placed on top of all hips and in the bottom of all dips. Severe dips will require an inline brace assembly and fabrication of a water gap to accommodate for flood waters. T-post weight should not be less than 1.33lb/ft.



Pipe Line Brace Assembly - 6' Fixed Knot Fence



Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (1 per Brace)	10'6" x 2 7/8" Piece of Structural Tubing	1 piece of 10'6" x 2 7/8" Structural Tubing
Angle Brace Foot (2 per Brace)	5' x 2 7/8" Piece of Structural Tubing	2 pieces of 5' x 2 7/8" Structural Tubing
Angle Brace (2 per Brace)	10' x 2 3/8" Piece of Structural Tubing	2 pieces of 10' x 2 3/8" Structural Tubing
Additional Materials Needed		
OSPHO (rust-inhibiting coating)	Oil Based Enamel Paint	
Metal Primer Paint		

Note:

- (a) Galvanized Schedule 40 Pipe is highly recommended instead of structural tubing
- (b) 3 1/2" schedule 40 pipe should be used where gates are being hung.

Installation

Note: Plan ahead to avoid costly waste ("drop") of pipe. Pipe Braces set in mixed soils are set 4' deep in concrete, with the minimum diameter of the hole being 8".

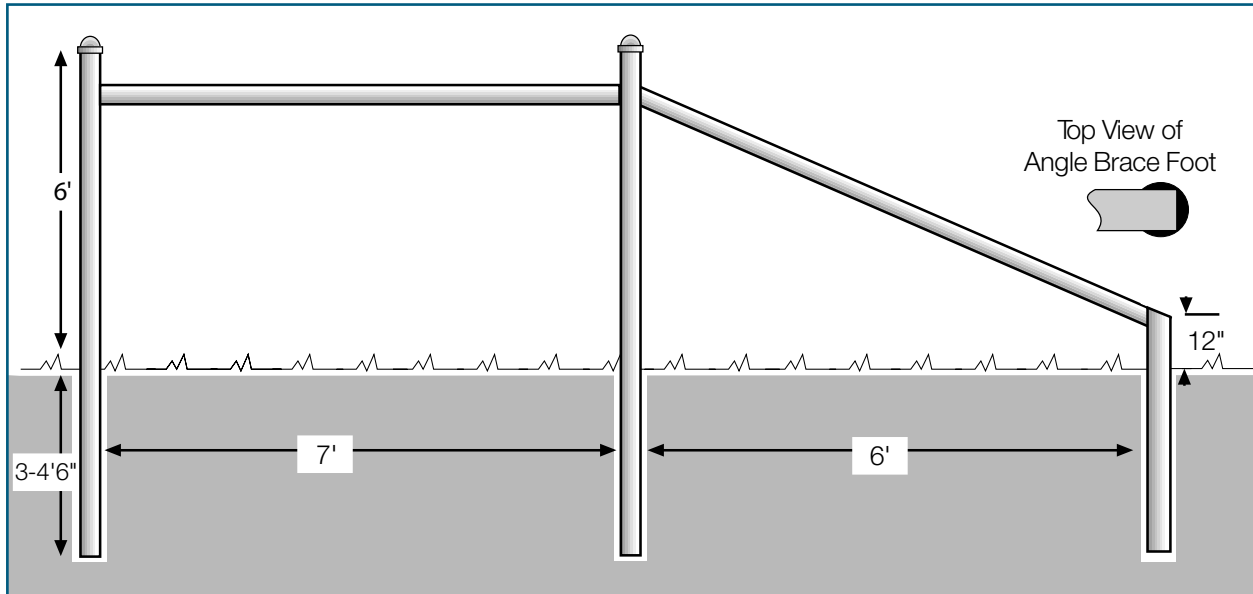
Caution: Allow 2 days for concrete to cure before pulling on brace.

Do not cheat on the depth of your brace posts for this determines the life of your fence. Do not fill holes completely with concrete. Fill the hole at most 1/3, leaving the rest to be filled with tamped dirt or crushed stone. Also, flare the bottom of hole if possible, this will provide an anchor for the post. Pipe set in solid rock or stone are set a minimum of 3' deep with a hole bored to match the diameter of the pipe. Pipe may also be driven in mixed soils to a minimum depth of 4'.

1. Treat pipe with OSPHO before setting. This product retards rust in chemical change on drying to a surface ready for priming.
2. Set End Post and pull Guide Wire.
3. Set Angle Feet 8' from Brace Post on either side and in line with fence line.
4. Measure inside the Brace width then cut and saddle the Cross Member. Position the Angle Brace between the 2nd and 3rd line wires of the fence fabric. Weld Solid.
5. Notch the Angle Brace Foot so the 2 3/8" Angle Brace can lay inside the foot. Cut and saddle the Angle Brace to meet the top Cross Member of the brace. Weld solid.
6. Cap all pipe with concrete plugs or pressed steel caps. If pipe is left open, water will rust the pipe off at ground level.
7. Brush all welds. For optimum protection, treat with OSPHO and then apply the metal primer followed by one or two coats of oil based paint.

Note: Inline Brace Assemblies should be set no more than 1,320' for 6" or 12" vertical stay wire spacing, and no more than 800' for 3" vertical stay wire spacing fixed knot fence.

Pipe Brace Assembly - 5' Fixed Knot Fence



Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (2 per Brace)	10'6" x 2 7/8" Piece of Structural Tubing	2 pieces of 10'6" x 2 7/8" Structural Tubing
Angle Brace Foot (1 per Brace)	5' x 2 7/8" Piece of Structural Tubing	1 piece of 5' x 2 7/8" Structural Tubing
Cross Member (1 per Brace)	7' x 2 3/8" Piece of Structural Tubing	1 piece of 7' x 2 3/8" Structural Tubing
Angle Brace (1 per Brace)	9' x 2 3/8" Piece of Structural Tubing	1 piece of 9' x 2 3/8" Structural Tubing
Additional Materials Needed		
OSPFO (rust-inhibiting coating)	Oil Based Enamel Paint	Structural Tubing Random Lengths: 32' or less
Metal Primer Paint	Standard Galvanized Pipe Lengths: 21', 24'	

Note:

- (a) Galvanized Schedule 40 pipe is highly recommended instead of structural tubing
- (b) 3 1/2" Schedule 40 pipe should be used where gates are being hung.

Installation

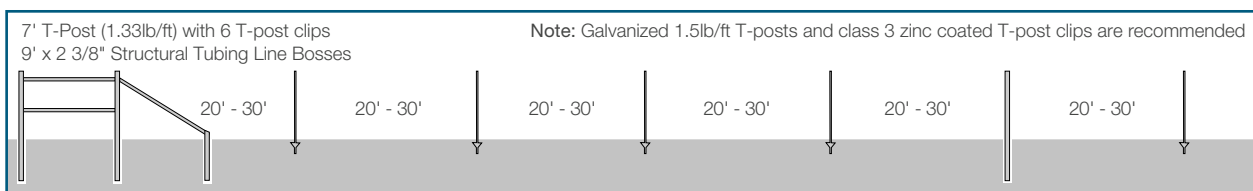
Note: Plan ahead to avoid costly waste ("drop") of pipe. Pipe Braces set in mixed soils are set 4' deep in concrete, with the minimum diameter of the hole being 8".

Caution: Allow 2 days for concrete to cure before pulling on brace.

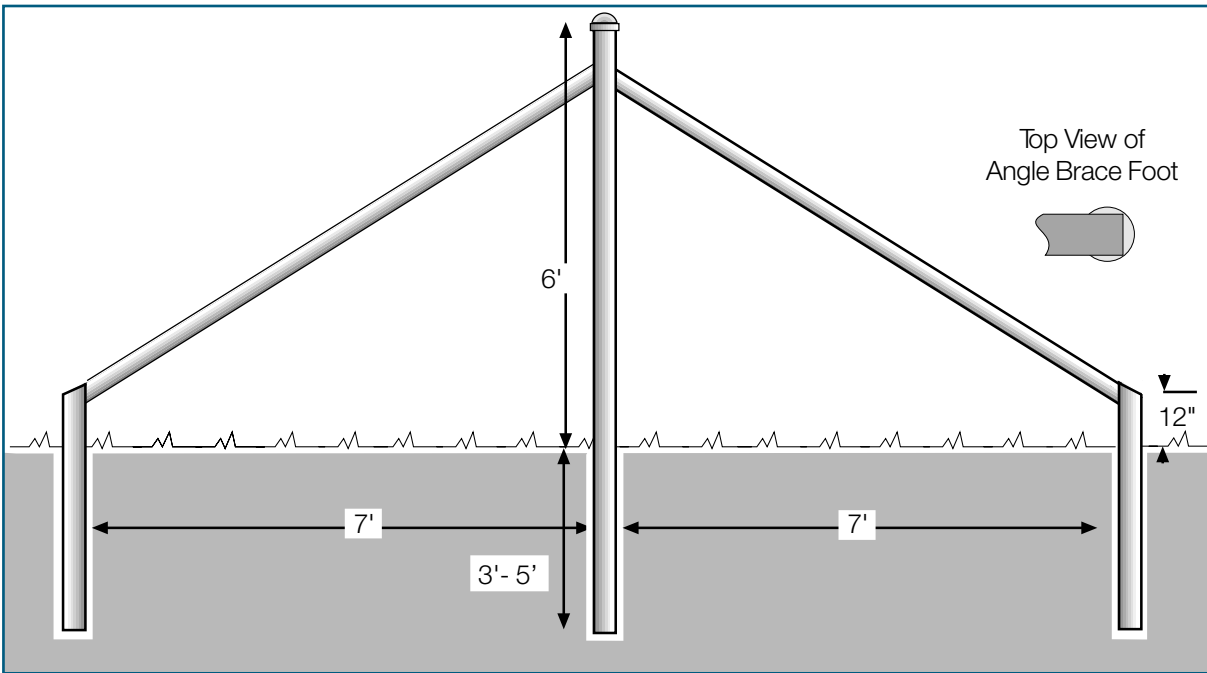
Do not cheat on the depth of your brace posts for this determines the life of your fence. Do not fill holes completely with concrete. Fill the hole at most 1/3, leaving the rest to be filled with tamped dirt or crushed stone. Also, flare the bottom of hole if possible, this will provide an anchor for the post. Pipe set in solid rock or stone are set a minimum 3' deep with a hole bored to match the diameter of the pipe. Pipe may also be driven in mixed soils to a minimum depth of 4'.

1. Treat pipe with OSPFO before setting. This product retards rust in chemical change on drying to a surface ready for priming.
2. Set End Post and pull Guide Wire.
3. Set Brace Post at 7' and Angle Foot at 6' centers.
4. Measure inside the Brace width then cut and saddle the Cross Member. Position the Cross Member between the 2nd and 3rd line wires of the fence fabric. Weld Solid.
5. Notch the Angle Brace Foot so the 2 3/8" Angle Brace can lay inside the foot. Cut and saddle the Angle Brace to meet the top Cross Member of the brace. Weld solid.
6. Cap all pipe with concrete plugs or pressed steel caps. If pipe is left open, water will rust the pipe off at ground level.
7. Brush all welds. For optimum protection, treat with OSPFO and then apply the metal primer followed by one or two coats of oil based paint.

Line Posts: Set line posts using 20' - 30' spacing. Post spacing should be determined by the terrain, turns in the fence line, changes in weather conditions and animal pressure. If a combination of T-posts and line bosses (2 3/8" structural pipe) is used, the ratio of T-posts should not exceed a 4 to 1 ratio. 1 7/8" to 2 3/8" structural tubing can be used for all line posts. Use 20' post spacing with any rough terrain. On level ground, 30' spacing is acceptable with use of pipe posts only. A rigid post should be placed on top of all hips and in the bottom of all dips. Severe dips will require an inline brace assembly and fabrication of a water gap to accommodate for flood waters. T-post weight should not be less than 1.33lb/ft.



Pipe Line Brace Assembly - 5' Fixed Knot Fence



Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (1 per Brace)	10' x 2 7/8" Piece of Structural Tubing	1 piece of 10' x 2 7/8" Structural Tubing
Angle Brace Foot (2 per Brace)	5' x 2 7/8" Piece of Structural Tubing	2 pieces of 5' x 2 7/8" Structural Tubing
Angle Brace (2 per Brace)	9' x 2 3/8" Piece of Structural Tubing	2 pieces of 9' x 2 3/8" Structural Tubing
Additional Materials Needed		
OSPHO (rust-inhibiting coating)	Oil Based Enamel Paint	
Metal Primer Paint		

Note:

- (a) Galvanized Schedule 40 Pipe is highly recommended instead of structural tubing
- (b) 3 1/2" schedule 40 pipe should be used where gates are being hung.

Installation

Note: Plan ahead to avoid costly waste ("drop") of pipe. Pipe Braces set in mixed soils are set 4' deep in concrete, with the minimum diameter of the hole being 8".

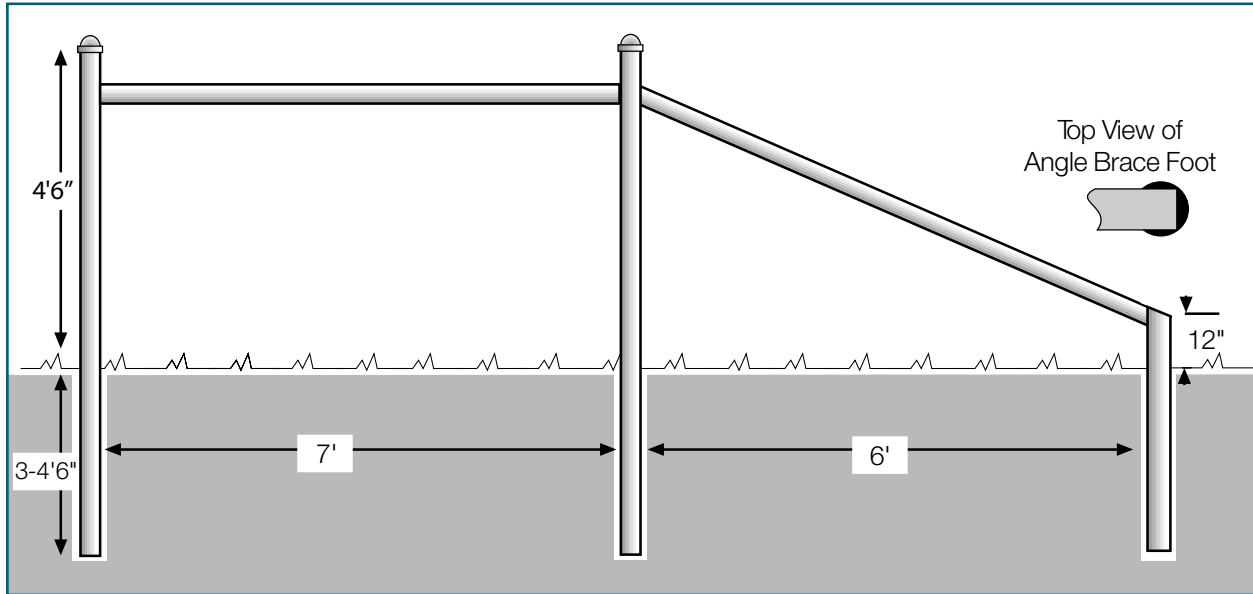
Caution: Allow 2 days for concrete to cure before pulling on brace.

Do not cheat on the depth of your brace posts for this determines the life of your fence. Do not fill holes completely with concrete. Fill the hole at most 1/3, leaving the rest to be filled with tamped dirt or crushed stone. Also, flare the bottom of hole if possible, this will provide an anchor for the post. Pipe set in solid rock or stone are set a minimum of 3' deep with a hole bored to match the diameter of the pipe. Pipe may also be driven in mixed soils to a minimum depth of 4'.

1. Treat pipe with OSPHO before setting. This product retards rust in chemical change on drying to a surface ready for priming.
2. Set End Post and pull Guide Wire.
3. Set Angle Feet 7' from Brace Post on either side and in line with fence line.
4. Measure inside the Brace width then cut and saddle the Cross Member. Position the Angle Brace between the 2nd and 3rd line wires of the fence fabric. Weld Solid.
5. Notch the Angle Brace Foot so the 2 3/8" Angle Brace can lay inside the foot. Cut and saddle the Angle Brace to meet the top Cross Member of the brace. Weld solid.
6. Cap all pipe with concrete plugs or pressed steel caps. If pipe is left open, water will rust the pipe off at ground level.
7. Brush all welds. For optimum protection, treat with OSPHO and then apply the metal primer followed by one or two coats of oil based paint.

Note: Inline Brace Assemblies should be set no more than 1,320' for 6" or 12" vertical stay wire spacing, and no more than 800' for 3" vertical stay wire spacing fixed knot fence.

Pipe Brace Assembly - 4' Fixed Knot Fence



Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (2 per Brace)	9' x 2 7/8" Piece of Structural Tubing	2 pieces of 9' x 2 7/8" Structural Tubing
Angle Brace Foot (1 per Brace)	5' x 2 7/8" Piece of Structural Tubing	1 piece of 5' x 2 7/8" Structural Tubing
Cross Member (1 per Brace)	7' x 2 3/8" Piece of Structural Tubing	1 piece of 7' x 2 3/8" Structural Tubing
Angle Brace (1 per Brace)	7' x 2 3/8" Piece of Structural Tubing	1 piece of 7' x 2 3/8" Structural Tubing
Additional Materials Needed		
OSPFO (rust-inhibiting coating)	Oil Based Enamel Paint	Structural Tubing Random Lengths: 32' or less
Metal Primer Paint	Standard Galvanized Pipe Lengths: 21', 24'	

Note:

- (a) Galvanized Schedule 40 pipe is highly recommended instead of structural tubing
- (b) 3 1/2" Schedule 40 pipe should be used where gates are being hung.

Installation

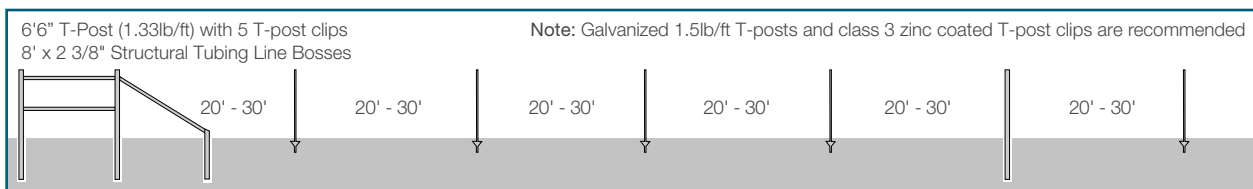
Note: Plan ahead to avoid costly waste ("drop") of pipe. Pipe Braces set in mixed soils are set 3'6" deep in concrete, with the minimum diameter of the hole being 8".

Caution: Allow 2 days for concrete to cure before pulling on brace.

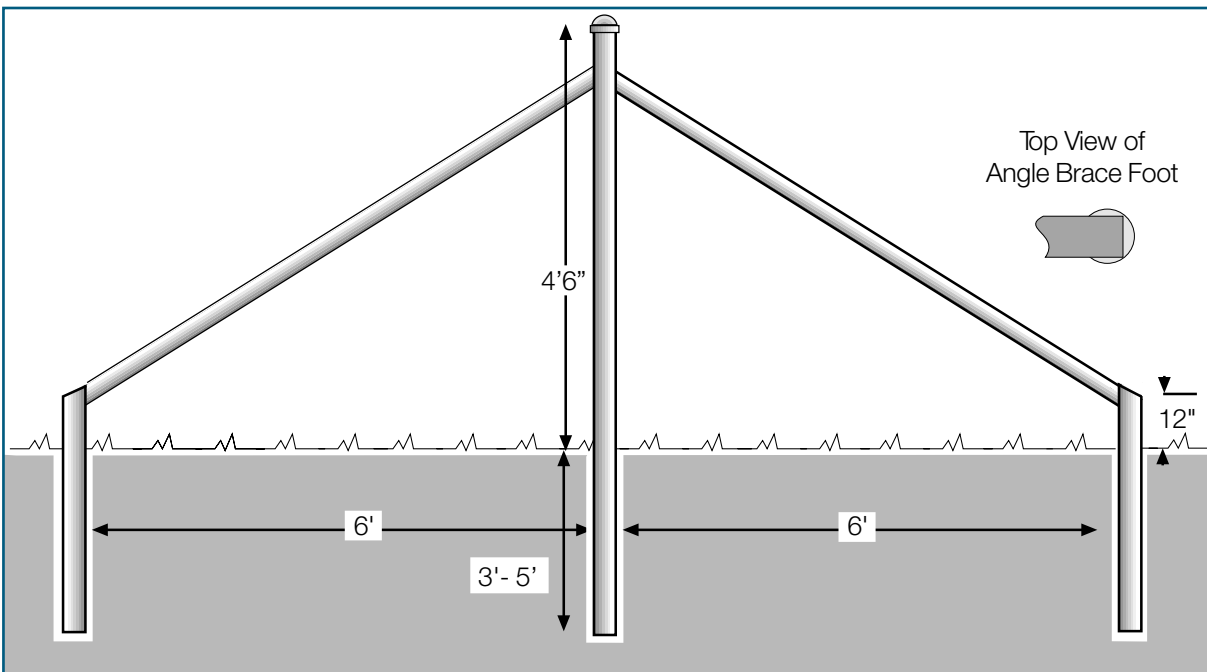
Do not cheat on the depth of your brace posts for this determines the life of your fence. Do not fill holes completely with concrete. Fill the hole at most 1/3, leaving the rest to be filled with tamped dirt or crushed stone. Also, flare the bottom of hole if possible, this will provide an anchor for the post. Pipe set in solid rock or stone are set a minimum 2' deep with a hole bored to match the diameter of the pipe. Pipe may also be driven in mixed soils to a minimum depth of 4'.

1. Treat pipe with OSPFO before setting. This product retards rust in chemical change on drying to a surface ready for priming.
2. Set End Post and pull Guide Wire.
3. Set Brace Post at 7' center and Angle Foot at 6' center.
4. Measure inside the Brace width then cut and saddle the Cross Member. Position the Cross Member between the 2nd and 3rd line wires of the fence fabric. Weld Solid.
5. Notch the Angle Brace Foot so the 2 3/8" Angle Brace can lay inside the foot. Cut and saddle the Angle Brace to meet the top Cross Member of the brace. Weld solid.
6. Cap all pipe with concrete plugs or pressed steel caps. If pipe is left open, water will rust the pipe off at ground level.
7. Brush all welds. For optimum protection, treat with OSPFO and then apply the metal primer followed by one or two coats of oil based paint.

Line Posts: Set line posts using 20' - 30' spacing. Post spacing should be determined by the terrain, turns in the fence line, changes in weather conditions and animal pressure. If a combination of T-posts and line bosses (2 3/8" structural pipe) is used, the ratio of T-posts should not exceed a 4 to 1 ratio. 1 7/8" to 2 3/8" structural tubing can be used for all line posts. Use 20' post spacing with any rough terrain. On level ground, 30' spacing is acceptable with use of pipe posts only. A rigid post should be placed on top of all hips and in the bottom of all dips. Severe dips will require an inline brace assembly and fabrication of a water gap to accommodate for flood waters. T-post weight should not be less than 1.33lb/ft.



Pipe Line Brace Assembly - 4' Fixed Knot Fence



Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (1 per Brace)	8' x 2 7/8" Piece of Structural Tubing	1 piece of 8' x 2 7/8" Structural Tubing
Angle Brace Foot (2 per Brace)	5' x 2 7/8" Piece of Structural Tubing	2 pieces of 5' x 2 7/8" Structural Tubing
Angle Brace (2 per Brace)	7' x 2 3/8" Piece of Structural Tubing	2 pieces of 7' x 2 3/8" Structural Tubing
Additional Materials Needed		
OSPFO (rust-inhibiting coating)	Oil Based Enamel Paint	
Metal Primer Paint		

Note:

- (a) Galvanized Schedule 40 Pipe is highly recommended instead of structural tubing
- (b) 3 1/2" schedule 40 pipe should be used where gates are being hung.

Installation

Note: Plan ahead to avoid costly waste ("drop") of pipe. Pipe Braces set in mixed soils are set 3'6" deep in concrete, with the minimum diameter of the hole being 8".

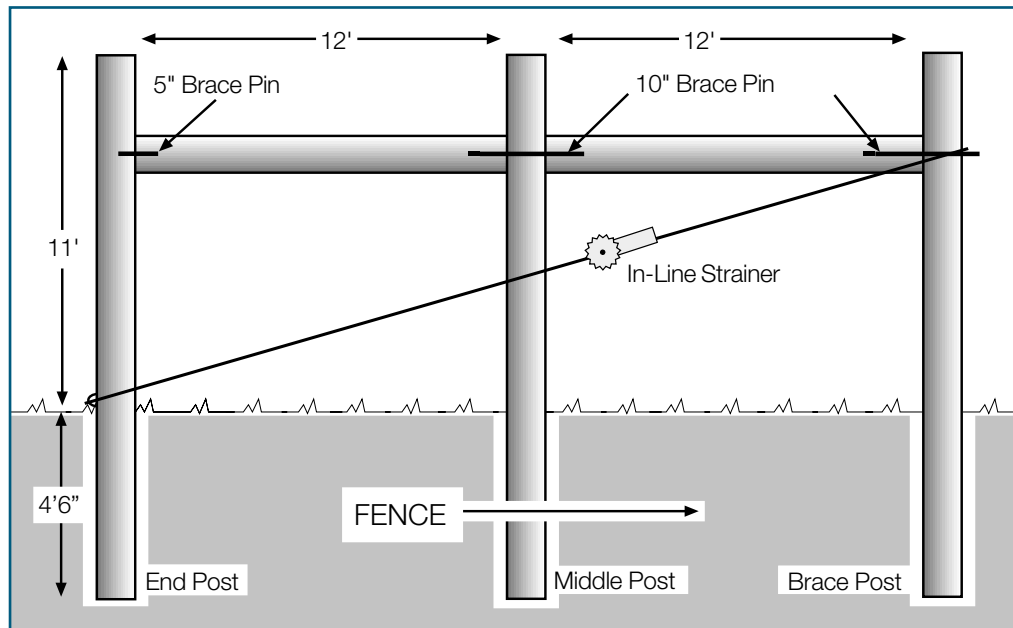
Caution: Allow 2 days for concrete to cure before pulling on brace.

Do not cheat on the depth of your brace posts for this determines the life of your fence. Do not fill holes completely with concrete. Fill the hole at most 1/3, leaving the rest to be filled with tamped dirt or crushed stone. Also, flare the bottom of hole if possible, this will provide an anchor for the post. Pipe set in solid rock or stone are set a minimum of 2' deep with a hole bored to match the diameter of the pipe. Pipe may also be driven in mixed soils to a minimum depth of 4'.

1. Treat pipe with OSPFO before setting. This product retards rust in chemical change on drying to a surface ready for priming.
2. Set End Post and pull Guide Wire.
3. Set Angle Feet 6' from Brace Post on either side and in line with fence line.
4. Measure inside the Brace width then cut and saddle the Cross Member. Position the Angle Brace between the 2nd and 3rd line wires of the fence fabric. Weld Solid.
5. Notch the Angle Brace Foot so the 2 3/8" Angle Brace can lay inside the foot. Cut and saddle the Angle Brace to meet the top Cross Member of the brace. Weld solid.
6. Cap all pipe with concrete plugs or pressed steel caps. If pipe is left open, water will rust the pipe off at ground level.
7. Brush all welds. For optimum protection, treat with OSPFO and then apply the metal primer followed by one or two coats of oil based paint.

Note: Inline Brace Assemblies should be set no more than 1,320' for 6" or 12" vertical stay wire spacing, and no more than 800' for 3" vertical stay wire spacing fixed knot fence.

Brace Assembly - 10' Fixed Knot Fence



Fence Components & Materials

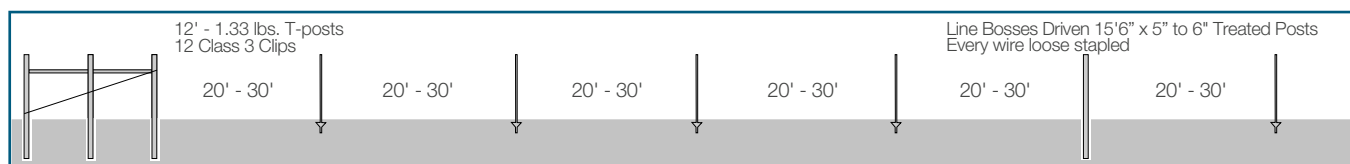
Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (3 per Brace)	15'6" x 6" .40 CCA Treated Pine	3 pieces of 15'6" x 6" .40 CCA Treated Pine
Cross Members (2 per Brace)	12' x 5" CCA Treated Pine or 12' x 3" Schedule 40 Pipe	2 pieces of 12' x 5" CCA Treated Pine or 12' x 3" Schedule 40 Pipe
Small Brace Pin (1 per Brace)	½" x 5" Galvanized Pin	1 - ½" x 5" Galvanized Pin
Large Brace Pins (2 per Brace)	½" x 10" Galvanized Pin	2 - ½" x 10" Galvanized Pin
Brace Wire	Double Wrap 9ga. Class 3 Low Tensile Wire or Double Wrap 12.5ga Class 3 High Tensile Wire or Single Wrap 5/16" Cable	1 roll/coil of Double Wrap 9ga. Class 3 Low Tensile Wire or Double Wrap 12.5ga Class 3 High Tensile Wire or Single Wrap 5/16" Cable
Barbed Staples	1 ¾" ZA Barbed Staples	1 - 8lb or 1-50lb Bucket of 1 ¾" ZA Barbed Staples (depending on length of fence)
Ratchet Type In-Line Wire Strainer	Ratchet Type In-Line Wire Strainer	1 - Ratchet Type In-Line Wire Strainer per Brace

Installation

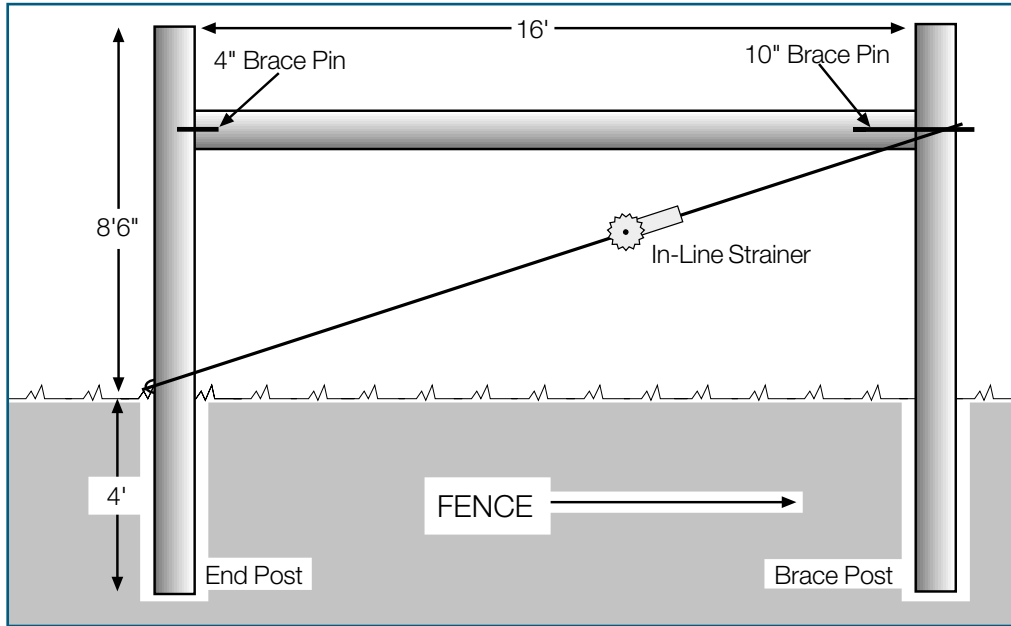
1. Drive or auger and tamp the End Post.
2. Pull the Guide Wire.
3. Set the Brace Posts using the Cross Member for measurement and aligning to the Guide Wire.
4. To establish the location of the cross member, measure the distance from the bottom of the fabric to a point midway between the 3rd and 4th wire from the top. Using this measurement, mark the inside of the Brace Posts.
5. Drill a ½" by 2" hole in the End Post and drill a ½" hole through the Middle Post and the Brace Post. Set the 5" Brace Pin in the End Post and start the 10" pin in the Brace Post.
6. Pilot drill the ends of the Cross Member. Set one end of the Cross Member on the 5" pin, and then lift the other end to align with the 10" pin. Drive the 10" pin into the Brace Post, leaving 2" exposed for the installation of the second Cross Member. Drill a ½" pilot hole in one end of the second Cross Member. Place this end on the brace pin in the Middle Post. Lift the other end so it is in line with the first Cross Member, and drive the 10" pin into the Top Rail leaving 1" exposed for the installation of the Brace Wire.
7. Drive a staple partially in (approximately 3 to 4 inches above ground level) on the side of the End Post opposite the Cross Member.
8. Guide the Brace Wire through the staple, behind the End Post, in front of the Middle Post, behind the Brace Post, over the 10" pin, back down behind the Middle Post, across the front of the End Post and through the staple. Repeat a second time, following the crisscross pattern. This will provide a double wrap, double figure eight, configuration of the Brace Wire.
9. Install a ratchet type wire strainer on the Brace Wire. Install the ratchet on the opposite side of the brace that the wire fabric will be on. Tighten the Brace Wire until the Brace Post moves approximately ¼" away from the soil.

NOTE: Braces must be installed in fence line, regardless of the length of the pull. Braces should be placed no more than 1320 ft. apart. Brace width must be a minimum of 2 times the height of the fence (2.5 times is preferred). Never cut into treated posts, cutting into the wood will expose untreated wood to the elements.

Line Posts: Set line posts using 20'- 30' spacing. Post spacing should be determined by terrain, turns in fence line, changes in weather conditions and animal pressure. If a combination of T-posts and wood line bosses is used, the ratio of T-posts to line bosses should not exceed 4 to 1. The line bosses should be 5" to 6" in diameter. If the fence is going to be all wood line posts, 4" to 5" treated posts can be used. T-post weight should not be less than 1.33 lb/ft..



Brace Assembly - 8' Fixed Knot Fence



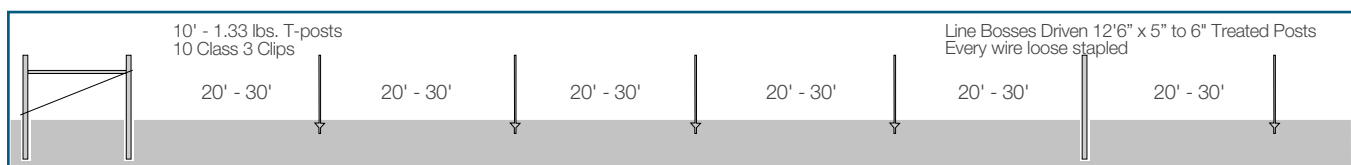
Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (2 per Brace)	12'6" x 6" .40 CCA Treated Pine	2 pieces of 12'6" x 6" .40 CCA Treated Pine
Cross Member (1 per Brace)	16' x 5" CCA Treated Pine or 16' x 3" Schedule 40 Pipe	1 piece of 16' x 5" CCA Treated Pine or 16' x 3" Schedule 40 Pipe
Small Brace Pin (1 per Brace)	½" x 4" Galvanized Pin	1 - ½" x 4" Galvanized Pin
Large Brace Pin (1 per Brace)	½" x 10" Galvanized Pin	1 - ½" x 10" Galvanized Pin
Brace Wire	Double Wrap 9ga. Class 3 Low Tensile Wire or Double Wrap 12.5ga Class 3 High Tensile Wire or Single Wrap 5/16" Cable	1 roll/coil of Double Wrap 9ga. Class 3 Low Tensile Wire or Double Wrap 12.5ga Class 3 High Tensile Wire or Single Wrap 5/16" Cable
Barbed Staples	1 ¾" ZA Barbed Staples	1 - 8lb or 1-50lb Bucket of 1 ¾" ZA Barbed Staples (depending on length of fence)
Ratchet Type In-Line Wire Strainer	Ratchet Type In-Line Wire Strainer	1 - Ratchet Type In-Line Wire Strainer per Brace

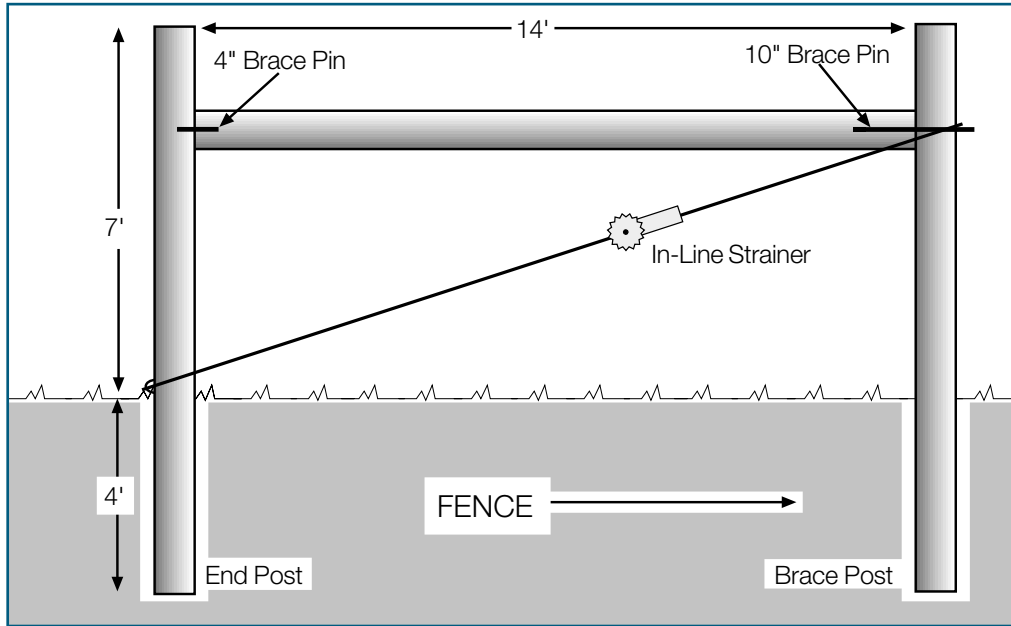
Installation

1. Drive or auger and tamp the End Post.
 2. Pull the Guide Wire.
 3. Set the Brace Posts using the Cross Member for measurement and aligning to the Guide Wire.
 4. To establish the location of the cross member, measure the distance from the bottom of the fabric to a point midway between the 2nd and 3rd wire from the top. Using this measurement mark the inside of the Brace Posts.
 5. Drill a ½" by 2" hole in the End Post and drill a ½" hole through the Brace Post. Set the 4" Brace Pin in the End Post and start the 10" pin in the Brace Post.
 6. Pilot drill the ends of the Cross Member. Set one end of the Cross Member on the 4" pin, and then lift the other end to align with the 10" pin. Drive the 10" pin into the Brace Post, leaving 1" exposed for the installation of the Brace Wire.
 7. Drive a barbed staple partially in (approximately 3 to 4 inches above ground level) on the side of the End Post opposite the Cross Member.
 8. Guide the Brace Wire through the staple in the end post, up over the 10' pin in the Brace Post, back down and through the staple and over the 10" pin again. This will provide a double wrap for the Brace Wire.
 9. Install a ratchet type wire strainer on the Brace Wire. Install the ratchet on the opposite side of the Brace that the wire fabric will be on. Tighten the Brace Wire until the Brace Post moves approximately ¼" away from the soil.
- NOTE:** Braces must be installed in the fence line, regardless of the length of the pull. Braces should be placed no more than 1320 ft. apart. Brace width must be a minimum of 2 times the height of the fence (2.5 times is preferred). Never cut into treated posts, cutting into the wood will expose untreated wood to the elements.

Line Posts: Set line posts using 20' - 30' spacing. Post spacing should be determined by terrain, turns in fence line, changes in weather conditions and animal pressure. If a combination of T-posts and wood line bosses is used, the ratio of T-posts to line bosses should not exceed 4 to 1. The line bosses should be 5" to 6" in diameter. If the fence is going to be all wood line posts, 4" to 5" treated posts can be used. T-post weight should not be less than 1.33 lb/ft..



Brace Assembly - 6' Fixed Knot Fence



Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (2 per Brace)	11' x 6" .40 CCA Treated Pine	2 pieces of 11' x 6" .40 CCA Treated Pine
Cross Member (1 per Brace)	14' x 5" CCA Treated Pine or 14' x 2 1/2" Schedule 40 Pipe	1 piece of 14' x 5" CCA Treated Pine or 14' x 2 1/2" Schedule 40 Pipe
Small Brace Pin (1 per Brace)	1/2" x 4" Galvanized Pin	1 - 1/2" x 4" Galvanized Pin
Large Brace Pin (1 per Brace)	1/2" x 10" Galvanized Pin	1 - 1/2" x 10" Galvanized Pin
Brace Wire	Double Wrap 9ga. Class 3 Low Tensile Wire or Double Wrap 12.5ga Class 3 High Tensile Wire or Single Wrap 5/16" Cable	1 roll/coil of Double Wrap 9ga. Class 3 Low Tensile Wire or Double Wrap 12.5ga Class 3 High Tensile Wire or Single Wrap 5/16" Cable
Barbed Staples	1 3/4" ZA Barbed Staples	1 - 8lb or 1-50lb Bucket of 1 3/4" ZA Barbed Staples (depending on length of fence)
Ratchet Type In-Line Wire Strainer	Ratchet Type In-Line Wire Strainer	1 - Ratchet Type In-Line Wire Strainer per Brace

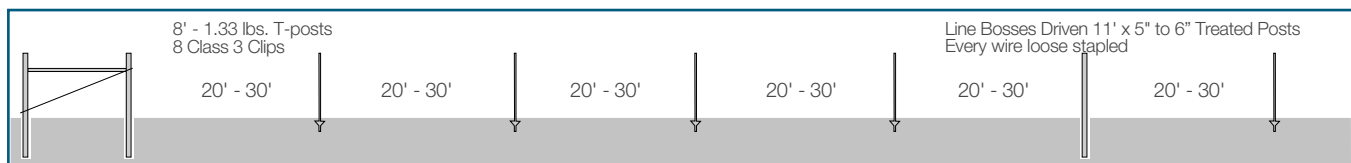
Installation

1. Drive or auger and tamp the End Post.
2. Pull the Guide Wire.
3. Set the Brace Posts using the Cross Member for measurement and aligning to the Guide Wire.
4. To establish the location of the cross member, measure the distance from the bottom of the fabric to a point midway between the 2nd and 3rd wire from the top. Using this measurement mark the inside of the Brace Posts.
5. Drill a 1/2" by 2" hole in the End Post and drill a 1/2" hole through the Brace Post. Set the 4" Brace Pin in the End Post and start the 10" pin in the Brace Post.
6. Pilot drill the ends of the Cross Member. Set one end of the Cross Member on the 4" pin, and then lift the other end to align with the 10" pin. Drive the 10" pin into the Brace Post, leaving 1" exposed for the installation of the Brace Wire.

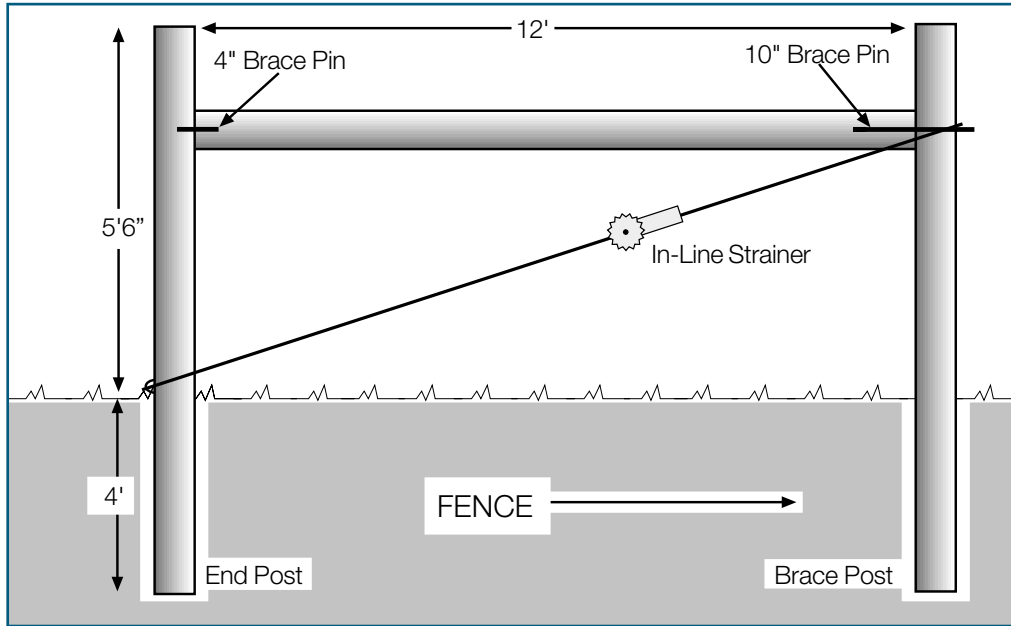
7. Drive a barbed staple partially in (approximately 3 to 4 inches above ground level) on the side of the End Post opposite the Cross Member.
8. Guide the Brace Wire through the staple in the end post, up over the 10" pin in the Brace Post, back down and through the staple and over the 10" pin again. This will provide a double wrap for the Brace Wire.
9. Install a ratchet type wire strainer on the Brace Wire. Install the ratchet on the opposite side of the Brace that the wire fabric will be on. Tighten the Brace Wire until the Brace Post moves approximately 1/4" away from the soil.

NOTE: Braces must be installed in the fence line, regardless of the length of the pull. Braces should be placed no more than 1320 ft. apart. Brace width must be a minimum of 2 times the height of the fence (2.5 times is preferred). Never cut into treated posts, cutting into the wood will expose untreated wood to the elements.

Line Posts: Set line posts using 20' - 30' spacing. Post spacing should be determined by terrain, turns in fence line, changes in weather conditions and animal pressure. If a combination of T-posts and wood line bosses is used, the ratio of T-posts to line bosses should not exceed 4 to 1. The line bosses should be 5" to 6" in diameter. If the fence is going to be all wood line posts, 4" to 5" treated posts can be used. T-post weight should not be less than 1.33 lb/ft..



Brace Assembly - 5' Fixed Knot Fence



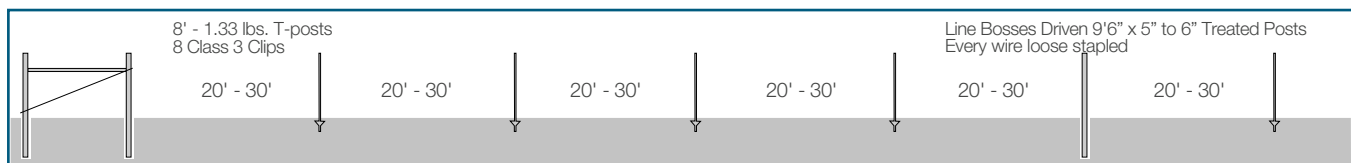
Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (2 per Brace)	9'6" x 6" CCA Treated Pine	2 pieces of 9'6" x 6" CCA Treated Pine
Cross Member (1 per Brace)	12' x 5" CCA Treated Pine or 12' x 2" SS-20 H.T. Tubing	1 piece of 12' x 5" CCA Treated Pine or 12' x 2" SS-20 H.T. Tubing
Small Brace Pin (1 per Brace)	½" x 4" Galvanized Pin	1 - ½" x 4" Galvanized Pin
Large Brace Pin (1 per Brace)	½" x 10" Galvanized Pin	1 - ½" x 10" Galvanized Pin
Brace Wire	Double Wrap 9ga. Class 3 Low Tensile Wire or Double Wrap 12.5ga Class 3 High Tensile Wire or Single Wrap 5/16" Cable	1 roll/coil of Double Wrap 9ga. Class 3 Low Tensile Wire or Double Wrap 12.5ga Class 3 High Tensile Wire or Single Wrap 5/16" Cable
Barbed Staples	1 ¾" ZA Barbed Staples	1 - 8lb or 1-50lb Bucket of 1 ¾" ZA Barbed Staples (depending on length of fence)
Ratchet Type In-Line Wire Strainer	Ratchet Type In-Line Wire Strainer	1 - Ratchet Type In-Line Wire Strainer per Brace

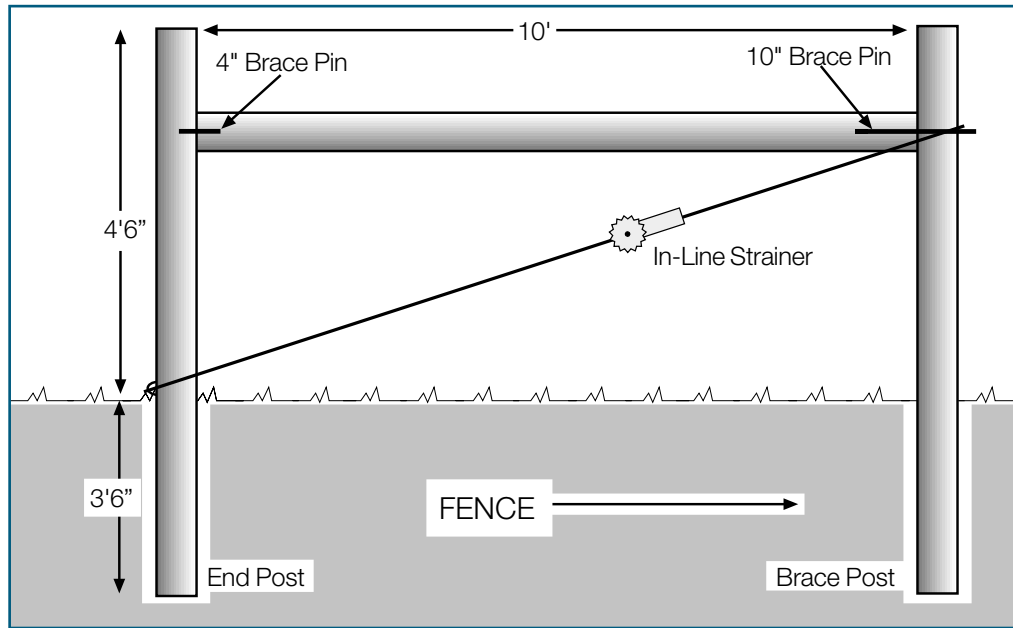
Installation

1. Drive or auger and tamp the End Post.
 2. Pull the Guide Wire.
 3. Set the Brace Posts using the Cross Member for measurement and aligning to the Guide Wire.
 4. To establish the location of the Cross Member, measure the distance from the bottom of the fabric to a point midway between the 2nd and 3rd wire from the top. Using this measurement mark the inside of the Brace Posts.
 5. Drill a ½" by 2" hole in the End Post and drill a ½" hole through the Brace Post. Set the 4" Brace Pin in the End Post and start the 10" pin in the Brace Post.
 6. Pilot drill the ends of the Cross Member. Set one end of the Cross Member on the 4" pin, and then lift the other end to align with the 10" pin. Drive the 10" pin into the Brace Post, leaving 1" exposed for the installation of the Brace Wire.
 7. Drive a barbed staple partially in (approximately 3 to 4 inches above ground level) on the side of the End Post opposite the Cross Member.
 8. Guide the Brace Wire through the staple in the end post, up over the 10' pin in the Brace Post, back down and through the staple and over the 10" pin again. This will provide a double wrap for the Brace Wire.
 9. Install a ratchet type wire strainer on the Brace Wire. Install the ratchet on the opposite side of the Brace that the wire fabric will be on. Tighten the Brace Wire until the Brace Post moves approximately ¼" away from the soil.
- NOTE:** Braces must be installed in the fence line, regardless of the length of the pull. Braces should be placed no more than 1320 ft. apart. Brace width must be a minimum of 2 times the height of the fence (2.5 times is preferred). Never cut into treated posts, cutting into the wood will expose untreated wood to the elements.

Line Posts: Set line posts using 20' - 30' spacing. Post spacing should be determined by terrain, turns in fence line, changes in weather conditions and animal pressure. If a combination of T-posts and wood line bosses is used, the ratio of T-posts to line bosses should not exceed 4 to 1. The line bosses should be 5" to 6" in diameter. If the fence is going to be all wood line posts, 4" to 5" treated posts can be used. T-post weight should not be less than 1.33 lb/ft..



Brace Assembly - 4' Fixed Knot Fence



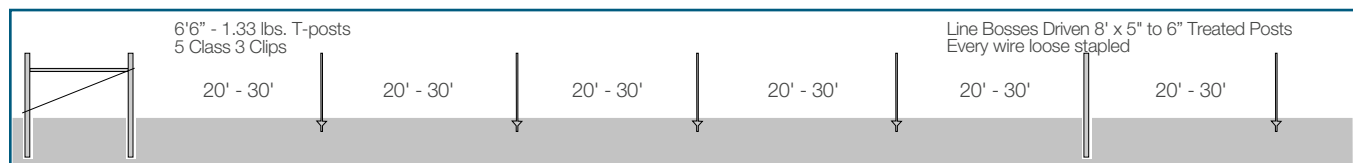
Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (2 per Brace)	8' x 6" CCA Treated Pine	2 pieces of 8' x 6" CCA Treated Pine
Cross Member (1 per Brace)	10' x 5" CCA Treated Pine or 10' x 2" SS-20 H.T. Tubing	1 piece of 10' x 5" CCA Treated Pine or 10' x 2" SS-20 H.T. Tubing
Small Brace Pin (1 per Brace)	½" x 4" Galvanized Pin	1 - ½" x 4" Galvanized Pin
Large Brace Pin (1 per Brace)	½" x 10" Galvanized Pin	1 - ½" x 10" Galvanized Pin
Brace Wire	Double Wrap 9ga. Class 3 Low Tensile Wire or Double Wrap 12.5ga Class 3 High Tensile Wire or Single Wrap 5/16" Cable	1 roll/coil of Double Wrap 9ga. Class 3 Low Tensile Wire or Double Wrap 12.5ga Class 3 High Tensile Wire or Single Wrap 5/16" Cable
Barbed Staples	1 ¾" ZA Barbed Staples	1 - 8lb or 1-50lb Bucket of 1 ¾" ZA Barbed Staples (depending on length of fence)
Ratchet Type In-Line Wire Strainer	Ratchet Type In-Line Wire Strainer	1 - Ratchet Type In-Line Wire Strainer per Brace

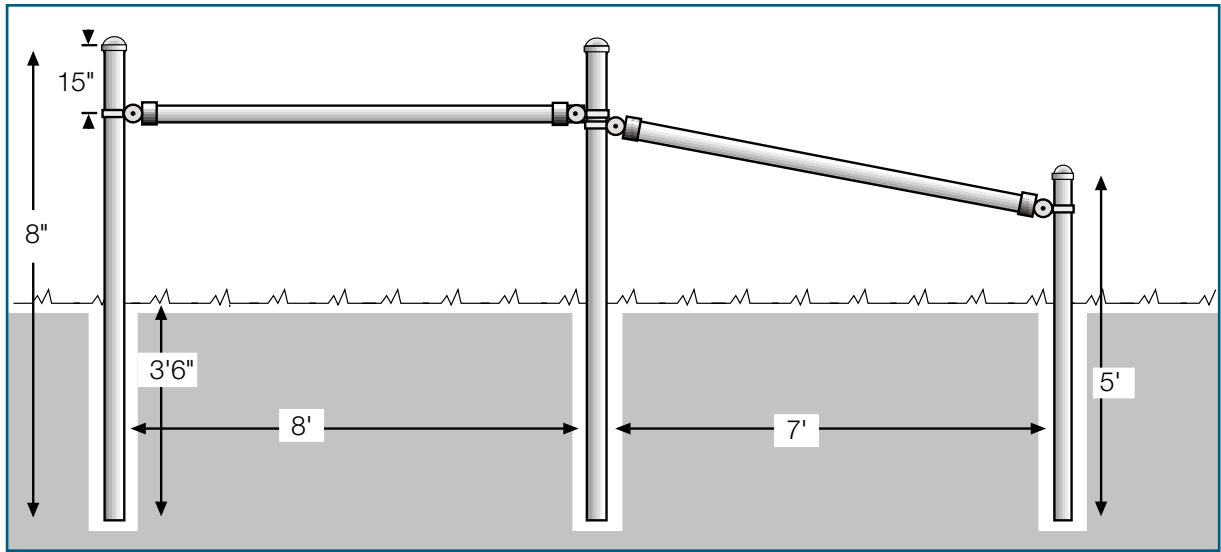
Installation

1. Drive or auger and tamp the End Post.
 2. Pull the Guide Wire.
 3. Set the Brace Posts using the Cross Member for measurement and aligning to the Guide Wire.
 4. To establish the location of the Cross Member, measure the distance from the bottom of the fabric to a point midway between the 2nd and 3rd wire from the top. Using this measurement mark the inside of the Brace Posts.
 5. Drill a ½" by 2" hole in the End Post and drill a ½" hole through the Brace Post. Set the 4" Brace Pin in the End Post and start the 10" pin in the Brace Post.
 6. Pilot drill the ends of the Cross Member. Set one end of the Cross Member on the 4" pin, and then lift the other end to align with the 10" pin. Drive the 10" pin into the Brace Post, leaving 1" exposed for the installation of the Brace Wire.
 7. Drive a barbed staple partially in (approximately 3 to 4 inches above ground level) on the side of the End Post opposite the Cross Member.
 8. Guide the Brace Wire through the staple in the end post, up over the 10" pin in the Brace Post, back down and through the staple and over the 10" pin again. This will provide a double wrap for the Brace Wire.
 9. Install a ratchet type wire strainer on the Brace Wire. Install the ratchet on the opposite side of the Brace that the wire fabric will be on. Tighten the Brace Wire until the Brace Post moves approximately ¼" away from the soil.
- NOTE:** Braces must be installed in the fence line, regardless of the length of the pull. Braces should be placed no more than 1320 ft. apart. Brace width must be a minimum of 2 times the height of the fence (2.5 times is preferred). Never cut into treated posts, cutting into the wood will expose untreated wood to the elements.

Line Posts: Set line posts using 20' - 30' spacing. Post spacing should be determined by terrain, turns in fence line, changes in weather conditions and animal pressure. If a combination of T-posts and wood line bosses is used, the ratio of T-posts to line bosses should not exceed 4 to 1. The line bosses should be 5" to 6" in diameter. If the fence is going to be all wood line posts, 4" to 5" treated posts can be used. T-post weight should not be less than 1.33 lb/ft..



Homestead Brace Assembly - 4' Fixed Knot Fence



Fence Components & Materials

Fence Component	Materials needed per component	Total amount of material needed to build brace
Brace Posts (2 per Brace)	8' x 2 3/8" SS-20 Galvanized Tubing	2 - 8' x 2 3/8" pieces of SS-20 Galvanized Tubing
Pusher Post (1 per Brace)	5' x 2 3/8" SS-20 Galvanized Tubing	1 - 5' x 2 3/8" piece of SS-20 Galvanized Tubing
Pusher (1 per Brace)	8' x 1 7/8" SS-20 Galvanized Tubing	1 - 8' x 1 7/8" piece of SS-20 Galvanized Tubing
Cross Member (1 per Brace)	8' x 1 7/8" SS-20 Galvanized Tubing	1 - 8' x 1 7/8" piece of SS-20 Galvanized Tubing
Pressed Steel Rail Ends (4 per Brace)	1 7/8" Pressed Steel Rail End	4 - 1 7/8" Pressed Steel Rail Ends
Brace Bands (4 per Brace)	2 3/8" x 1" x 1/8" Brace Band	4 - 2 3/8" x 1" x 1/8" Brace Bands
Carriage Bolts (4 per Brace)	1 1/4" x 5/16" Carriage Bolt	4 - 1 1/4" x 5/16" Carriage Bolts
Pressed Steel Dome Caps (3 per Brace)	2 3/8" Pressed Steel Dome Cap	3 - 2 3/8" Pressed Steel Dome Caps

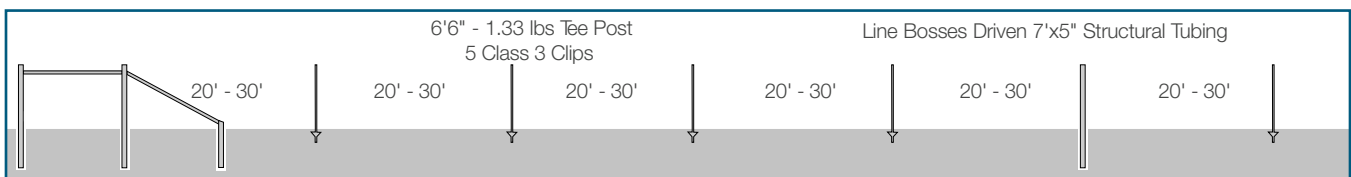
Installation

1. Drive or concrete the End Posts and pull a Guide Wire between them. Drive or concrete the Brace Posts and Pusher Posts using the Guide Wire for alignment. If they are set in concrete, allow a minimum of 2 days for the concrete to cure before pulling on the Brace.
2. To establish the location of the Cross Member, measure the distance from the bottom of the fabric to a point midway between the 2nd and 3rd wire. Using this measurement mark the End Post and the Brace Post.
3. Attach a Rail End and a Brace Band at these points – do not tighten completely. Attach another Rail End and Brace Band on the Pusher Post.
4. Measure the distance between the insides of the two Rail Ends on the Brace Posts. Cut the Cross Member to this length. **This must be a tight fit.** Install the same way by putting one end in one cup and sliding the other cup up or down the post to receive the other end. Slide back into place and tighten.
5. Install a second Rail End and Brace Band underneath the first Brace Band on the Brace Post, or middle Post, facing toward the Pusher Post.

6. Slide the Brace Band and Rail End on the Pusher Post down to ground level.
7. Measure the distance between the insides of the two remaining rail ends. Cut the Pusher to this length. Install the same way by putting the Pusher into the Rail End on the Brace Post, then put the other end into the cup on the Pusher Post. Jam this very tight by lifting this end as far as possible. This will set the brace, allowing no movement when the fence is tightened.
8. Make sure the Rail Ends and Brace Bands are aligned to the center of the posts. Tighten everything thoroughly.

NOTE: Braces must be installed at the end of every fence line, regardless of the length of pull. Braces should be placed no more than 1320 ft. apart. Do not substitute lighter tubing for this brace, as it will fail. Use only hot-dipped galvanized commercial fittings. Brace width must be a minimum of 2 times the height of the fence (2.5 times is preferred).

Line Posts: Set line posts using 20' - 30' spacing. Post spacing should be determined by terrain, turns in fence line, changes in weather conditions and animal pressure. If a combination of 2 3/8" Galvanized pipe and T-posts is used, the ratio of T-posts to line bosses should not exceed 4 to 1. 2" Galvanized Tubing can be used for all Line Posts. Use 30' post spacing as a guideline, in rough terrain closer post spacing will be required. A rigid post should be placed on the top of all hips and in the bottom of all dips. T-post weight should not be less than 1.33 lb/ft.



Fence Construction

End Posts and Guide Wire

To begin construction, locate and set the end and corner posts. Use treated posts of no less than 6" in diameter or 3 1/2" pipe, set 4' to 6' deep. The depth of setting depends on soil types; rocky soils set 4' and sandy soils 6'. After setting posts, use a guide wire of 12 1/2 ga. High Tensile wire pulled tight between posts. This wire becomes the fence line.



Bracing

Braces are the backbone of any fence and must be built correctly. Braces may be single or double, however the width should ALWAYS be 2 1/2 times the height of the fence. Cross members should be pipe, tubing, or round wood posts. Never 4 x 4's or landscape timbers. Double wraps of 12 1/2 ga. High Tensile or 9 ga. low-tensile wire make the twitch wire. Twitch wire MUST be anchored securely or the brace will fail.

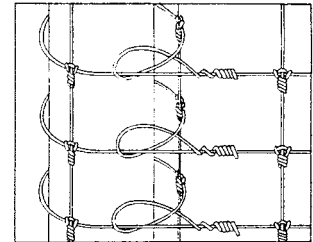


Dips & Humps

Generally, the use of 20' post centers is more than adequate for High Tensile fencing, however this is only a guideline. A rigid post should be placed at the lowest point of a dip and at the crown of a hump. These posts should be larger than the line posts and set a little deeper. They will hold the fence up or down as required. Standing on the guide wire in dips will show you where to put the rigid post.

Tying Off

Generally, High Tensile wire is tied off at both ends of the fence and is tensioned to the middle of the pull. This allows the fence to be tied off without being under tension. Use a High Tensile slip knot to tie off the wire. Keep the vertical wire straight so the wire will tension the same throughout the fence.



Splicing

Splicing can be done two ways; one by placing vertical stays over each other and wrapping the loose end of the wire around the corresponding horizontal wire 6 times. Secondly a splicing sleeve can be installed between the vertical stays and crimped with a crimping tool. Use sleeves designed for 12 1/2 ga. High Tensile wire only. Only Nicropress or EZ Pull tools should be used to achieve adequate holding strength.

Tensioning

Using stretcher bars, up to four rolls (or 1/4 mile of wire) may be tightened in one single pull. The tension crimp should be 1/2 of the size of an un-tensioned crimp. Splice the wire and remove the stretcher bars.



Trimming Out

Position the wire 1" off of the ground and staple to the post. Use barbed staples and leave room for the wire to move freely under the staple. Staple all high points first, and then pull the wire down and staple it last. If there are a lot of dips, a little less tension would be applied as pulling the wire down will tighten the wire more.

Measurement Guide

NOTE: The formulas, diagrams and tables on this worksheet should be used to estimate only. Before beginning your project it is always recommended that actual measurements are taken to confirm the amount of fence needed for your project.

Common Fence Measurements

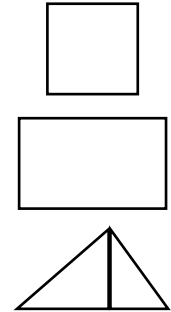
Measurement	Equivalent
1 foot	12 inches
1 yard	3 feet
1 rod	16.5 feet
1 mile	5,280 feet = 1,760 yards = 320 rods
1 acre	43,560 sq. feet = 160 sq. rods = .4047 hectares
1 sq. mile	640 acres = 1 section
1 sq. foot	144 sq. inches
1 sq. yard	9 sq. feet
1 sq. rod	272.25 sq. feet

Formulas to Determine Perimeter & Area

Square	
Perimeter	4 x 1 side
Area	1 side squared

Rectangle	
Perimeter	(2 x Length) + (2 x Width)
Area	Length x Width

Triangle	
Perimeter	Total of three sides
Area	1/2 Base x Height



Diagrams & Tables for Estimating Amount of Fence

Square Acres	Length of One Side of Field (ft)	Length of Fence Required (ft)
1	208 3/4	835
2	295 1/6	1,180 2/3
2 1/2	330	1,320
3	361 1/2	1,446
4	417 5/12	1,669 2/3
5	466 2/3	1,866 2/3
6	511 1/4	2,045
7	552 1/6	2,208 2/3
8	590 1/3	2,361 1/3
9	626 1/6	2,504 2/3
10	660	2,640
20	933 5/12	3,733 2/3
25	1,043 7/12	4,174 1/3
30	1,143 1/6	4,572 2/3
40	1,320	5,280
50	1,475 5/6	5,903 1/3
60	1,616 2/3	6,466 2/3
70	1,746 1/6	6,984 2/3
75	1,807 1/2	7,230
80	1,866 3/4	7,467
100	2,087 1/12	8,348 1/3
120	2,286 1/3	9,145 1/3
140	2,469 1/2	9,878
160	2,640	10,560
320	3,733 7/12	14,934 1/3
640	5,280	21,120

Rectangle Acres	Length of Field (ft)	Width of Field (ft)	Length of Fence Required (ft)
1	264	165	858
1	330	132	924
1 1/4	330	165	990
2 1/2	660	165	1,650
4	528	330	1,716
5	660	330	1,980
6	990	264	2,508
7	1,320	231	3,102
8	1,320	264	3,168
9	1,320	297	3,234
10	825	528	2,706
15	1,320	495	3,630
20	1,650	528	4,356
25	1,320	825	4,290
30	1,320	990	4,620
40	1,650	1,056	5,412
50	1,650	1,320	5,940
60	1,980	1,320	6,600
70	2,640	1,155	7,590
80	2,112	1,650	7,524
100	2,640	1,650	8,580
120	3,168	1,650	9,636
140	4,620	1,320	11,880
160	5,280	1,320	13,200
320	6,600	2,112	17,424
640	6,600	4,224	21,648

160 acres
Requires 2 miles (10,560 ft)
or 640 rods of fence to enclose

1/2 mile (2,640 ft) or 160 rods

80 acres
Requires 1 1/2 miles (7,920 ft)
or 480 rods of fence to enclose

1/2 mile (2,640 ft) or 160 rods

40 acres
Requires 1 mile (5,280 ft)
to enclose

20 acres
Requires 3/4 mile (3,960 ft)
or 240 rods of fence to enclose

10 acres
Requires 1/2 mile (2,640 ft)
or 160 rods of fence to enclose

5 acres
1/8 mile (660 ft)

2 1/2 acres	2 1/2 acres
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Where to find us

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